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GRAPHIC REPRESENTATION OF THE CONTROL CHARACTERS OF ASCII (FIPS 1)

CATEGORY: HARDWARE STANDARD

SUBCATEGORY: INTERCHANGE CODES AND MEDIA

Foreword

The Federal Information Processing Standards Publication Series of the National Bureau of Standards is the official publication relating to standards adopted and promulgated under the provisions of Public Law 89-306, and Part 6 of Title 15 Code of Federal Regulations. The entire series constitutes the FEDERAL INFORMATION PROCESSING STANDARDS REGISTER.

The series is used to announce Federal Information Processing Standards, and to provide standards information of general interest and an index of relevant standards publications and specifications. Publications that announce adoption of standards provide the necessary policy, administrative, and guidance information for effective standards implementation and use. The technical specifications of the standard are usually attached to the publication, otherwise a reference source is cited.

Comments covering Federal Information Processing Standards and Publications are welcomed, and should be addressed to the Associate Director for ADP Standards, Institute for Computer Sciences and Technology, National Bureau of Standards, Washington, D.C. 20234. Such comments will be either considered by NBS or forwarded to the responsible activity as appropriate.

RICHARD W. ROBERTS, *Director*

Abstract

This FIPS PUB announces the adoption of the American National Standard X3.32-1973, Graphic Representation of the Control Characters of American National Standard Code for Information Interchange. This standard specifies graphical representations for the 34 characters of ASCII (FIPS 1) for which a graphic representation is not indicated in FIPS 1. Graphical representations are given for the 32 control functions of columns 0 and 1 as well as the characters "Space" and "Delete". Two forms of graphical representations for each of the 34 characters are provided: a pictorial symbol, and a 2-letter alphanumeric code.

Key words: American Standard Code for Information Interchange; ASCII, coded character subsets; codes; data communication, data interchange, data processing; Federal Information Processing Standards; graphic character subsets; graphic subsets; information interchange; information processing; standards; subsets.

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1975 June 1

ANNOUNCING THE STANDARD FOR

GRAPHIC REPRESENTATION OF THE CONTROL CHARACTERS OF ASCII (FIPS 1)

Federal Information Processing Standards Publications are issued by the National Bureau of Standards pursuant to the Federal Property and Administrative Services Act of 1949 as amended, Public Law 89-306 (79 Stat. 1127), and as implemented by Executive Order 11717 (38 FR 12315, dated May 11, 1973), and Part 6 of Title 15 CFR (Code of Federal Regulations).

Name of Standard. Graphic Representation of the Control Characters of ASCII (FIPS 1). (FIPS 36).

Category of Standard. Hardware Standard, Interchange Codes and Media.

Explanation. This standard specifies graphical representation for the 34 characters of ASCII (American Standard Code for Information Interchange) (FIPS 1) for which a graphic representation is not indicated in FIPS 1. Graphical representations are given for the 32 control functions of columns 0 and 1 as well as the characters "Space" and "Delete". Two forms of graphical representations for each of the 34 characters are provided: a pictorial symbol, and a 2-letter alphanumeric code.

Approving Authority. Secretary of Commerce.

Maintenance Agency. Institute for Computer Sciences and Technology, National Bureau of Standards.

Cross Index.

- a. FIPS PUB 1, Federal Standard Code for Information Interchange.
- b. FIPS PUB 15, Subsets of the Standard Code for Information Interchange.

Applicability. This standard is applicable to equipment that prints or displays graphic representations of any or all of the control characters of ASCII (FIPS 1) or of the characters "Space" or "Delete". It is also applicable to the printing of graphic representations of such characters on media, such as perforated tape, punched cards or listings.

Specifications. This standard adopts in whole American National Standard X3.32-1973, Graphic Representation of the Control Characters of ASCII, which was developed and approved by the American National Standards Institute.

Qualifications. This standard specifies two types of graphic representations of the control character of ASCII. One type is a single-symbol pictorial representation and the other type is a two-letter alphanumeric representation. It is not intended that one representation be implemented to the exclusion of the other. The selection of the particular type to be used or specified is a decision to be made based upon the operational requirements of a given system. In certain instances, it may be desirable to implement a subset of the graphic control characters provided in the standard. In these cases, the National Bureau of Standards should be consulted for advice prior to the finalization of the technical specifications involved.

Implementation Schedule. This standard becomes effective one year after the publication date of this FIPS PUB. All applicable equipment ordered after this date must be in conformance with this standard unless a waiver has been obtained in accordance with the procedure described below. Exceptions to this standard are made in the following cases:

- a. For equipment installed or on order prior to the effective date of this FIPS PUB.
- b. Where procurement actions are into the solicitation phase (i.e., Request for Proposals or Invitation for Bids have been issued) on the effective date of this FIPS PUB.

Waiver Procedure. Heads of agencies may waive the provisions of the implementation schedule. Proposed waivers relating to the procurement of non-conforming equipments will be coordinated in advance with the National Bureau of Standards. Letters should be addressed to the Associate Director for ADP Standards, Institute for Computer Sciences and Technology, National Bureau of Standards, Washington, D.C. 20234. They should describe the nature of the waiver and set forth the reasons therefor.

Sixty days should be allowed for review and response by the National Bureau of Standards. The waiver is not to be made until a reply from the National Bureau of Standards is received; however, the final decision for granting the waiver is a responsibility of the agency head.

Special Information. An appendix to the standard shows two dot matrix examples for 7 x 9 and 5 x 7 dot patterns for the two-symbol alphanumeric representations of the 34 specified characters of ASCII as given in FIPS 1 (ANSI X3.4-1968). These are for information purposes only and should not be cited in technical specifications without prior arrangements and consultation with the National Bureau of Standards. Matrix representation of graphic characters as a standard is under study and consideration by the standards organizations concerned.

Where To Obtain Copies of the Specifications.

- a. Federal Government activities should obtain copies from established sources within each agency. When there is no established source, purchase orders should be submitted to the General Services Administration, Specifications Activity, Printed Materials Supply Division, Building 197, Washington Navy Yard Annex, Washington, D.C. 20407. Refer to Federal Information Processing Standards Publication 36.
- b. Others may obtain copies from the American National Standards Institute, 1430 Broadway, New York, New York 10018. Refer to American National Standard X3.32-1973, Graphic Representation of the Control Characters of ASCII. Price is \$3.50 a copy. (Discounts available on quantity orders. See ANSI catalog.)